REMARKS

Claims 1-68 are pending in the application. Claims 24-68 were withdrawn from consideration pursuant to the Applicant's election of Invention I made in Response to Restriction Requirement, filed on September 11, 2002. Claims 1-23 and 66-68 were rejected under 35 U.S.C. § 103(a) over Schlessel '832 in view of Maglica '858. The Office Action also included objections to drawings.

A. Amendments to the Drawings and Specification

Amendments to the drawings to add reference character "62" are made to designate the "one way valve" that was disclosed in the originally filed application.

The specification at paragraph numbers 0041, 0050, 0054, 0065 and 0083 has been amended to correspond to the new reference character as described above, to correct a typographical error of a reference character, and to clarify terminology designations corresponding to reference characters.

It is submitted that the amendments to the drawings and the specification are fully supported by the application as originally filed and adds no new matter.

The Office Action also included objections to the drawings for the following reasons:

- reference character "38" [sic, "34"], used to designate "spring member" page 12, line 18) and "spring" (page 12, line 22); and
- reference character "41", used to designate "lower insulator receptacle" (page 13, line 10) and "lower insulator" (page 13, line 15).

The Applicant respectfully submits that no correction is required as for reference characters 34 and 41 because their usage is clear and understandable by those skilled in the art. Reference characters 34 and 41 are each used to correspond to a single part. Each of reference characters 34 and 41 is not

used for a given part and a modification of such part. See, MPEP §608.01(g). Therefore, it is submitted that reference characters 34 and 41 in the application are properly applied.

B. Section 103 Rejections

1. Claims 1-24

Claim 1 is directed to a combination for use in aligning the filament of a flashlight bulb with the principal axis of a flashlight reflector comprising:

> a lamp base adapted to receive the electrodes of the lamp bulb, the lamp bulb being secured to the base so that the electrodes extend through the base, the bulb portion is disposed adjacent the base, and the **filament of the lamp bulb is aligned with a predetermined axis extending through the base**, and wherein the base is configured to be removably seated in a bore provided in a base receiver mounted adjacent to a forward end of the flashlight so as to **align the predetermined axis of the base with the principal axis of the reflector**.

By having the *filament* of the lamp bulb aligned with a *predetermined axis extending through the base* and having the predetermined axis of the base aligned with the *principal axis of the reflector*, the combination is better suited, among other things, to align the filament of a lamp bulb with the principal axis of the flashlight reflector. Aligning the filament of the lamp bulb with the principal axis of the flashlight reflector improves flashlight performance.

In contrast, neither Schlessel '832 nor Maglica '858 discloses a filament of the lamp bulb aligned with a predetermined axis extending through the base, or a base that is configured to be removably seated in a bore provided in a base receiver mounted adjacent to a forward end of the flashlight so as to align the predetermined axis of the base with the principal axis of the reflector.

Schlessel '832 is directed to a halogen lamp bulb assembly for projectors. Schlessel '832 describes a lamp bulb including a filament 3 housed in a clear envelope 2. The filament 3 is

mounted on a support with lead rods 9 used to connect opposite ends of the filament to a source of voltage through pins 6. See, 2:42-52. A reflector is preferably mounted with the envelope 2 behind the filament 3 to increase the efficiency of the lamp 1 by a forward reflection of the filament light. See, 2:50-53, Figures 3 and 5. However, "*with or without a reflector*, it is desirable to obtain maximum efficiency of the lamp by a focusing or aligning operation wherein the *light rays from the lamp* are effectively centered and directed along the *axis of the projector system.*" See, 2:54-58, emphasis added. Figure 2 illustrates the optical axis 17 of the projector system to which the lamp bulb according to Schlessel '832 is aligned. The optical axis 17 of a projector optical system passes through a series of optical elements. As shown and described in Schlessel '832, the optical axis 17 extends through a pair of condenser lenses 14, a transparent slide 18, and a projection lens. See, 2:69-3:3 and Figure 2. The lamp bulb comprising the envelope 2 and the filament 3 is mounted in mounting slot 19 of collar 7 of base 4. See, 3:15-35. The mounting slot 19 is configured slightly larger than the attaching portion of the envelope to allow the lamp bulb to be adjusted within the mounting slot 19 of the collar 7 and align the position of the lamp beam to the optical axis 17 of the projector system. See, 3:49-57. The alignment of the lamp beam to the optical axis 17 is accomplished by inserting the base 4 into a socket in a calibration system and then adjusting the lamp bulb. Ceramic cement is used to fill the space between the lamp bulb and the mounting slot 19 to secure the lamp bulb to the base 4. See, 3:46-49. In this way, the lamp bulb and base assembly of Schlessel '832 aligns the *lamp beam* to the *optical axis* 17 *of the projector system* to obtain maximum light intensity along the optical axis of the projector system. See, 2:69-74, 3:49-57.

Therefore, Schlessel '832 does not disclose a lamp base, wherein the filament of the lamp bulb is aligned with a predetermined axis extending through the base. Schlessel '832 does not describe aligning the filament to an axis of the base because its lamp bulb/base assembly has no need

for such an alignment. Schlessel '832 does not mention an axis through its base 4, much less aligning the filament 3 thereto. Instead, Schlessel '832 aligns the light beam directly to the optical axis 17 of the projector system. See, 2:69-74, 3:49-57. As illustrated in Figure 2, the lamp bulb emanates a lamp beam perpendicular to the axis of the base. To focus and align the lamp beam travelling through the condenser lenses 14 and the transparent slide, i.e., the optical axis, the lamp bulb is adjusted within the mounting slot 19 before it is secured in place using a cement. Accordingly, Schlessel '832 fails to disclose a base adapted to receive the electrodes of the lamp bulb wherein the filament of the lamp bulb is aligned with a predetermined axis extending through the base.

Also, Schlessel '832 does not disclose a base configured to be removably seated in a bore provided in a base receiver so as to align the predetermined axis of the base with the principal axis of the reflector. As Schlessel '832 does not describe a predefined axis of the base, it cannot describe a base that is configured to align the predefined axis of the base with the principal axis of the reflector. Further, because Schlessel '832 aligns the lamp beam to the optical axis of the projector system, Schlessel '832 explicitly provides a reflector is not even required in its system. See, 2:53-57. A reflector or the principal axis of the reflector is not disclosed to be aligned to a predetermined axis of the base or needed to practice the teaching of Schlessel '832. Therefore, Schlessel '832 does not describe or suggest a base configured to be seated in a base receiver so as to align the predetermined axis of the base with the principal axis of the reflector.

Maglica '858 also does not disclose these limitations. Maglica '858 describes a novel flashlight switch housing 28 disposed between the battery compartment and the reflector 20 for, among other things, improving alignment between the lamp and the reflector, improving sealing characteristics, and improving assembly. The switch housing 28 is disposed in the barrel 12 of the

flashlight. The switch housing 28 includes a neck 30 within which a lamp holder 58 is slidably positioned. See, 2:36-48. A spring 54 biases forward the lamp holder. See, 2:49. A contact 56 is attached to the back end of the spring and a receptacle contact 52 is attached to the front end of the spring 54. See, 2:49-51. A lamp 60 includes a base 61 and a lamp flange 63. See, Figure 2. The receptacle contact 52 makes electrical contact with the base 61 of the lamp 60. See, 2:52-54. A lamp retainer 62 threads onto the forward end of the lamp holder 58 and secures the lamp 60 by clamping on the lamp flange 63. See, 2:63-65. The switch housing 28 also includes a front flange 68 that seats against a retaining ring 64 which is disposed within a groove in the inside surface of the barrel 12. See, 3:4-8. On the rear end of the switch housing 28, an o-ring slot 38 is provided.

The combinations of Maglica '858 do not include a lamp base wherein the filament of the lamp bulb is aligned with a predetermined axis extending through the base. Maglica '858 describes a lamp 60 having a base 61 and a flange 62. However, the base 61 is disclosed only for identifying the feature of the lamp 60 to which electrical contact is achieved. See, 2:52-54. Accordingly, the base 61 illustrated in Figure 2 shows the receptacle contact 52 in electrical connection with the base 61. The lamp 60 described in Maglica '858 includes a base 61 that is already fixed relative to the filament, and no adjustment or alignment between the bulb portion of the lamp 60, or the filament contained therein, with the base 61 is suggested. Hence, although Maglica '858 describes a switch housing that partially floats within the barrel of the flashlight to allow for slight movement of the lamp to be centered relative to the reflector, to the extent that the lamp filament is not centered within the bulb, the lamp *filament* will not be properly centered within the reflector and optimal performance of the flashlight will not be achieved. See, SPECIFICATION, 3:12-4:2. Maglica '858 does not describe or suggest the base 61 to include a predetermined axis extending therethrough to which the filament of the lamp bulb is aligned. Therefore, Maglica '858 does not disclose the lamp

base of Claim 1 wherein the filament of the lamp bulb is aligned with a predetermined axis extending through the base.

Further, the Office Action states that Maglica '858 discloses "a lamp base receiver, Figure 2, reference number 58" and "the lamp base receiver being adapted to align the lamp base with a principal axis of a reflector, column 4, lines 7-30." See, Office Action p. 5. However, as described above, Maglica '858 does not describe or suggest the base 61 to include a predetermined axis extending therethrough to which the filament of the lamp bulb is aligned. Therefore, Maglica '858 does not describe a base that is configured to be removably seated in a bore provided in a base receiver mounted adjacent to a forward end of the flashlight so as to align the predetermined axis of the base with the predetermined axis of the base with the principal axis of the reflector.

A *prima facie* case of obviousness requires that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP §2142. Here, the combination of Schlessel '832 and Maglica '858 does not teach or suggest the limitation of a lamp base wherein the filament of the lamp bulb is aligned with a predetermined axis extending through the base or a base configured to align the predetermined axis of the base with the principal axis of the reflector. By aligning the filament of the lamp bulb with the predetermined axis extending through the base and aligning the predetermined axis of the base with the principal axis of the reflector, the combination of Claim 1 advantageously improves flashlight performance even when the filament is not centered within the lamp bulb. Because the filament of the lamp bulb is aligned with a predetermined axis of the base and the base is configured so as to align the predetermined axis of the base with the principal axis of the reflector, if the combination of Claim 1 is replaced with a spare combination, the filament of the spare combination will still be aligned with the axis of principal axis of the

reflector. Neither Schlessel '832 nor Maglica '858 teaches such an advantage. Therefore, it is submitted that Claim 1 is non-obvious and allowable.

Claims 2-14, which depend on Claim 1, should also be allowable in part as depending upon an allowable base claim. Further, Claim 6 includes the limitation wherein the lamp base generally comprises a frustum of a right circular cone having a base end, a truncated end, and a tapered sidewall interposed between the two. Such a configuration advantageously provides the lamp base a self-centering characteristic when installed into a suitable bore provided in the base receiver. Neither Schlessel '832 nor Maglica '858 includes such a limitation or advantage.

2. Claims 15-23

Claim 15 is directed to a combination for use in aligning the filament of a lamp bulb with the principal axis of a reflector comprising:

> a lamp base comprising a conical frustum having a circular base end, a circular base end, a circular truncated end parallel to and concentric with the base end, and a conical-shaped side wall interposed between the two, **the lamp base further including two holes extending through the base in a direction parallel to an axis extending through the center of the base end and truncated end** and adapted to receive the electrodes of the lamp bulb;
>
> wherein the lamp bulb is secured to the base so that the electrodes extend through the base, the bulb portion is disposed adjacent the base, and the **filament of the lamp bulb is aligned with the axis**.

For similar reasons as discussed above for Claim 1, a *prima facie* case of obviousness cannot be made as to Claim 15 because the combination of Schlessel '832 and Maglica '858 does not include the limitation of the lamp bulb including two holes extending through the base in a direction parallel to *an axis extending thought the center of the base end and truncated end*, wherein the *filament* of

the lamp bulb is *aligned with the axis*. Neither Schlessel '832 nor Maglica '858 teach or suggest such a limitation.

Further, Claim 15 includes the limitation of a lamp base comprising a conical frustum having a circular base end, a circular truncated end parallel to and concentric with the base end, and a conical-shaped side wall interposed between the two. Such a configuration advantageously provides the combination of Claim 15 a self-centering characteristic. See, SPECIFICATION 40:9-12. Because of the filament of the lamp bulb is aligned with the lamp base axis and the self-centering characteristic of the lamp base, a replacement bi-pin lamp bulb/lamp base combination may be installed such that the filament of the lamp bulb is automatically aligned with the principal axis of the reflector. See, SPECIFICATION 43:3-14. Neither Schlessel '832 nor Maglica '858 discloses such a limitation or advantage.

Claims 16-23, which depend on Claim 15, should also be allowable in part as depending upon an allowable base claim.

3. Claims 66-68

Claim 66 is directed to a combination comprising:

> a lamp bulb secured to a lamp base, the lamp bulb having a pair of electrodes and a filament extending between the electrodes, **the lamp bulb being secured to the lamp base so that the center of the filament is aligned with a predetermined axis of the lamp base**.

For similar reasons as discussed above for Claim 1, a *prima facie* case of obviousness cannot be made as to Claim 66 because the combination of Schlessel '832 and Maglica '858 does not include the limitation of the lamp bulb being secured to the lamp base so that the center of the filament is

aligned with a predetermined axis of the lamp base. Neither Schlessel '832 nor Maglica '858 teach or suggest such a limitation.

Claims 67-68, which depend on Claim 66, should also be allowable in part as depending upon an allowable base claim.

C. Conclusion

Therefore, it is respectfully submitted that claims 1-23 and 66-68 are allowable and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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Version of Replacement Paragraphs with Markings to Show Changes Made

On page 18, lines 8-22:

[0041] Tail cap 22 also preferably includes a region of external [threading] threads 32 for engaging matching threads formed on the interior of the barrel 21. However, other suitable means may also be employed for attaching tail cap 22 to barrel 21. A sealing element 33 may be provided at the interface between the tail cap 22 and the barrel 21 to provide a watertight seal. As best seen in FIGS. 3 and 5, sealing element 33 is preferably a one-way valve 62 in the form of a lip seal. However, as those skilled in the art will appreciate, it may also comprise an O-ring. One way valve [33] 62 is retained in a circumferential channel 44 formed in tail cap 22. One-way valve [33] 62 is oriented so as to prevent flow from outside into the interior of the flashlight 20, while simultaneously allowing overpressure within the flashlight to escape or vent to the atmosphere.

On page 21, line 13 to page 22, line 3:

[0050] Referring to FIGS. 3, 4, and 6-10, lower insulator receptacle 41 includes a sidewall 43 that defines a right circular cylinder. The diameter of the cylindrical wall defined by the sidewall 43 is dimensioned so that the lower insulator 41 may slide up and down against the inner surface 30 of barrel 21 without binding. At the same time, the diameter of the lower insulator is sufficient to prevent side-to-side movement of the lower insulator within the barrel. In addition, the lower insulator is preferably of sufficient length to prevent it from tilting with respect to the barrel. As a result of the foregoing arrangement, lower insulator 41 and barrel 21 will remain coaxial with respect to one another.

On page 23, line 18 to page 24, line 5:

[0054] First conductor 39 includes a first contact 55 that is disposed in a slot 47 provided in a support pedestal 50 formed in the central region of recess 45. Slot 47 extends in an axial direction and is in communication with hole 49 provided in the forward surface of the insulator receptacle [39] 41. As a result, a first terminal electrode 57 of a [bi-pin] lamp bulb 59, for example a bi-pin lamp bulb, may extend through hole 49 into slot 47. Contact 55 is adapted to frictionally receive and retain electrode 57 of the [bi-pin] lamp bulb 59.

On page 29, lines 3-10:

[0065] In the present embodiment, contact 83 is attached to central body portion 89 at the midpoint of the chord that defines [segment] the hole 91. A protrusion 93 may be provided opposite contact 83 along the arc that defines [segment] the hole 91. If protrusion 93 is included on conductor 42, it is preferably configured to be received by a mating hole 86, and thus may be used to further help properly orient conductor 42 relative to insulator 41.

On page 37, line 3 to page 38, line 22:

[0083] To align the center of filament 60 with the predetermined axis 141, [bi-pin] lamp bulb 59, for example a bi-pin lamp bulb, is initially inserted into base 125 so that electrodes 57, 58 extend through holes 139 and the glass bead portion 131 of the lamp bulb is adjacent the base end 133 of the base. Lamp bulb 59 is then laterally adjusted or displaced with respect to base 125 to bring the center of filament 60 into alignment with the predetermined axis 141. In the present embodiment, the play between the inner walls of holes 139 and electrodes 57, 58 permits limited side-to-side movement in all lateral directions. The lateral adjustment may be carried out manually or by an automated means. Further, an optical bench or other suitable means known in the optics art may be

used to determine when filament 60 is properly aligned with the predetermined axis 141. Preferably the filament is aligned so that its center is displaced 0.003 inches or less from the predetermined axis 141, and more preferably 0.001 inches or less from the predetermined axis. Lamp bulb 59 is preferably powered during the alignment process to facilitate identification of the center of the filament and its alignment with axis 141. If lamp bulb 59 is powered during the alignment process, the optical equipment employed in the optical bench is preferably adapted, as will be appreciated by those skilled in the art, to detect the hottest or brightest portion of filament 60, and hence its center. Once the filament is properly aligned with axis 141, lamp bulb 59 may be secured or attached to base 125 using an adhesive or other suitable means to preserve the alignment of the center of the filament 60. Although a variety of adhesives may be used, a fast, UV curing adhesive is preferred so that once filament 60 is aligned with predetermined axis 141, the adhesive may be rapidly cured by exposing it to a UV light source. The adhesive may be applied to the base or opposing surface of glass bead 131 prior to insertion of the electrodes into base 125. Alternatively, the adhesive may be applied subsequent to the insertion of electrodes 57, 58 into base 125. If the adhesive is applied prior to insertion of lamp bulb 59 into base 125, however, obviously it should have a sufficient set time to permit the center of the filament 60 to be aligned with the predetermined axis before setting.